STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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GOVERNOR

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UniFirst Corporation
Cumberland County
Portland, Maine
A-412-71-F-R/M (SM)

Departmental
Findings of Fact and Order
Air Emission License

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

UniFirst Corporation (UniFirst) of Portland, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their industrial laundry facility.

UniFirst has requested an amendment to their License in order to remove one boiler and add a third dryer. UniFirst also requests to fire natural gas in Boiler CB2.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type, % sulfur	Stack #
Boiler CB2	20.9	144.1 gal/hr 20,500 scf/hr	#4, 1.5% Nat gas	CB2

Process Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate	Pollution Control Equipment	Stack #
Dryer #1	2.5	2500 scf/hr	Fabric filter	Fugitive
Dryer #2	2.5	2500 scf/hr	Fabric filter	Fugitive
Dryer #3	2.9	2900 scf/hr	Fabric filter	Fugitive
Parts Washer	15 gallons	-	none	Fugitive

Insignificant Units

UniFirst operates the following equipment that are considered insignificant in accordance with 06-096 CMR 115, Appendix B Sections (B)(2) and (B)(3). Since the equipment is insignificant it is therefore exempt from licensing requirements and listed here for inventory purposes only.

Equipment	Firing Rate (MMBtu/hr)	Stack #
NG H20 Heater	0.05	H2O-1
Milnor Dryer	0.415	MD-1
NG Space Heater	0.075	SH-1
#1 HVAC	0.25	fugitive
#2 HVAC	0.125	fugitive
#3 HVAC	0.2	fugitive

C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations. This modification will result in lower total facility emissions. Therefore this application is considered a renewal with a minor revision, and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boiler CB2

Boiler CB2 was installed in 1979 with a maximum heat input of 20.9 MMBtu/hr. CB2 is therefore not subject to New Source Performance Standards (NSPS) Subpart Dc for steam generating units greater than 10 MMBtu/hr manufactured after June 9, 1989. CB2 fires #4 fuel oil and natural gas.

A summary of the BPT analysis for Boiler CB2 is the following:

1. CB2 shall not fire in excess of 150,000 gal/year of #4 fuel oil, based on a 12 month rolling total.
2. UniFirst shall not exceed an annual facility limit of 15 million cubic feet of natural gas, on a 12-month rolling total basis.
3. *Low Sulfur Fuel*, 06-096 CMR 106 (last amended June 9, 1999) regulates fuel sulfur content. However, the use of #4 fuel oil with a maximum sulfur content of 1.5%, or the use of natural gas is more stringent and shall be considered BPT.
4. *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (last amended November 3, 1990) regulates PM emission limits when firing #4 fuel oil. A PM emission limit of 0.05 lb/MMBtu when firing natural gas is more stringent and shall be considered BPT. The PM_{10} limits are derived from the PM limits.
5. NOx, CO, and VOC emission limits are based upon AP-42 data dated 9/98, for the combustion of fuel oil, and AP-42 data dated 7/98 for the combustion of natural gas.
6. When firing fuel oil, visible emissions from CB2 shall not exceed 20% opacity on a 6-minute block average basis, except for no more than two (2), six (6) minute block averages in a 3-hour period.
7. When firing natural gas, visible emissions from CB2 shall not exceed 10% opacity on a 6-minute block average basis, except for no more than one (1), six (6) minute block average in a 3-hour period.

C. Dryers #1, #2 and #3

UniFirst operates three natural gas fired dryers in their laundering process. Dryers #1, #2 and #3 have maximum heat inputs of 2.5, 2.5, and 2.9 MMBtu/hr respectively. The dryers vent through fabric filters to control PM emissions.

BPT for Dryer #1 and Dryer #2, and BACT for Dryer #3 is the following:

1. The Dryers shall fire only natural gas.
2. UniFirst shall not exceed an annual facility limit of 15 million cubic feet of natural gas, on a 12-month rolling total basis.
3. 06-096 CMR 106 regulates fuel sulfur content. However, the use of natural gas is more stringent and shall be considered BPT.
4. A PM emission limit of 0.05 lb/MMBtu shall be considered BPT for Dryers #1 and #2, and BACT for Dryer #3. The PM_{10} limits are derived from the PM limits.
5. Emissions from the dryers shall vent through fabric filters to control particulate matter. Logs documenting maintenance performed on the fabric filters shall be kept.
6. NOx, CO and VOC emissions are based on AP-42 data dated 7/98.
7. Visible emissions from each dryer shall not exceed an opacity of 10 percent on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. The facility shall take corrective action if visible emissions from the fabric filters exceed five (5) percent opacity.

D. Parts Washer

UniFirst operates one Parts Washer, located in the garage area. It has a volume of 15 gallons and is maintained by Safety Kleen. The Parts Washer is subject to the requirements of 06-096 CMR 130.

E. Process Vents

UniFirst operates a number of process vents. Although these vents do not serve as exhaust points for fuel burning equipment, they are subject to the opacity requirements of 06-096 CMR 101. Visible emissions from the process vents shall not exceed 20% opacity on a 6-minute block average basis, except for no more than one 6-minute block average in a 1-hour period.

F. Annual Emissions

1. CB2 emission are calculated based on firing 100% #4 fuel oil, and no natural gas.
2. CB2 shall be limited to firing 150,000 gallons of #4 fuel oil on a 12 month rolling total.
3. UniFirst shall be limited to a total of 15,000,000 scf of natural gas on a 12 month rolling total.
4. UniFirst shall be restricted to the following annual emissions, based on a 12 month rolling total.

Total Licensed Annual Emissions for the Facility
Tons/year
(used to calculate the annual license fee)

	PM	PM_{10}	SO_2	NOx	CO	VOC
CB2	2.2	2.2	17.7	4.1	0.4	0.05
Natural gas (facility wide)	0.4	0.4	0.01	0.8	0.6	0.05
Total TPY	**2.6**	**2.6**	**17.7**	**4.9**	**1.0**	**0.1**

III. AMBIENT AIR QUALITY ANALYSIS

According to the 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Based on the above total facility emissions, UniFirst is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-412-71-F-R/M subject to the following conditions:

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]

(6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned

changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]

(11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
   1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
   2. pursuant to any other requirement of this license to perform stack testing.

B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

C. submit a written report to the Department within thirty (30) days from date of test completion.

[06-096 CMR 115]

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate

under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
[06-096 CMR 115]

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

(16) **Boiler CB2**

A. CB2 shall be limited to 150,000 gallons of #4 fuel oil (12 month rolling total), with a maximum sulfur content not to exceed 1.5% by weight. Compliance shall be demonstrated by fuel receipts and/or records from the supplier showing the quantity of fuel delivered and the percent sulfur of the fuel. Records of annual fuel use shall be kept on a 12-month rolling total basis. [06-096 CMR 115, BPT]

B. Emissions shall not exceed the following when firing #4 fuel oil:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler CB2	PM	0.20	06-096 CMR 103, Section 2(A)(1)

C. Emissions shall not exceed the following when firing #4 fuel oil: [06-096 CMR 115, BPT]

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NOx (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler CB2	4.2	4.2	34.1	7.9	0.72	0.03

D. Visible emissions from CB2 shall not exceed 20% opacity on a 6-minute block average basis, except for no more than two (2), six (6) minute block averages in a 3-hour period. [MEDEP Chapter 101]

E. UniFirst shall be limited to a facility-wide total of 15,000,000 scf of natural gas on a 12 month rolling total. Compliance shall be demonstrated by fuel receipts and/or records from the supplier (or fuel flow meters) showing the quantity of fuel delivered (or used). Records of annual fuel use shall be kept on a 12-month rolling total basis. [06-096 CMR 115, BPT]

F. Emissions shall not exceed the following when firing natural gas:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler CB2	PM	0.05	06-096 CMR 103, Section 2(A)(1), BPT

G. Emissions shall not exceed the following when firing natural gas: [06-096 CMR 115, BPT]

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NOx (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler CB2	1.05	1.05	0.01	2.05	1.72	0.11

H. Visible emissions from CB2 shall not exceed 10% opacity on a 6-minute block average basis, except for no more than one (1), six (6) minute block average in a 3-hour period. [06-096 CMR 101]

(17) **Dryers #1, #2, and #3**

A. UniFirst shall be limited to a facility-wide total of 15,000,000 scf of natural gas on a 12 month rolling total. Compliance shall be demonstrated by fuel receipts and/or records from the supplier (or fuel flow meters) showing the quantity of fuel delivered (or used). Records of annual fuel use shall be kept on a 12-month rolling total basis. [06-096 CMR 115, BPT, BACT]

B. Emissions from the dryers shall vent through fabric filters to control particulate matter. A log documenting maintenance performed on the fabric filters shall be kept. [06-096 CMR 115, BPT, BACT]

C. Emissions shall not exceed the following [06-096 CMR 115, BPT, BACT]:

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NOx (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Dryer #1	0.13	0.13	0.01	0.25	0.21	0.01
Dryer #2	0.13	0.13	0.01	0.25	0.21	0.01
Dryer #3	0.15	0.15	0.01	0.28	0.24	0.02

D. Visible emissions from each dryer shall not exceed an opacity of 10 percent on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. The facility shall take corrective action if visible emissions from the fabric filters exceed five (5) percent opacity. [06-096 CMR 101]

(18) **Parts Washer**

The parts washer at UniFirst is subject to *Solvent Cleaners*, 06-096 CMR 130 (last amended June 28, 2004).

A. UniFirst shall keep records of the amount of solvent added to each parts washer. [06-096 CMR 115, BPT]

B. The following are exempt from the requirements of 06-096 CMR 130 [06-096 CMR 130]:

1. Solvent cleaners using less than two liters (68 oz) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
2. Wipe cleaning; and,
3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.

C. The following standards apply to cold cleaning machines that are applicable sources under 06-096 CMR 130.

1. UniFirst shall attach a permanent conspicuous label to each unit summarizing the following operational standards [06-096 CMR 130]:
   (i) Waste solvent shall be collected and stored in closed containers.
   (ii) Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.

(iii) Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.

(iv) The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.

(v) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the degreaser.

(vi) When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.

(vii) Spills during solvent transfer shall be cleaned immediately. Sorbent material shall be immediately stored in covered containers.

(viii) Work area fans shall not blow across the opening of the degreaser unit.

(ix) The solvent level shall not exceed the fill line.

2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches. [06-096 CMR 130]

(19) **Process Vents**

Visible emissions from the process vents shall not exceed 20% opacity on a 6-minute block average basis, except for no more than one 6-minute block average in a 1-hour period. [06-096 CMR 101]

(20) UniFirst shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard. [38 MRSA §605]

DONE AND DATED IN AUGUSTA, MAINE THIS 17th DAY OF December , 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Brooks for
DAVID P. LITTELL, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 8/24/2009
Date of application acceptance: 10/2/2009

Date filed with the Board of Environmental Protection: _____

This Order prepared by Jonathan Voisine, Bureau of Air Quality.